

REMARKS

Entry of the foregoing, re-examination and reconsideration of the subject matter identified in caption, as amended, pursuant to and consistent with 37 C.F.R. §1.112, and in light of the remarks which follow, are respectfully requested.

Claims 1 and 11 have been currently amended in response to a §112 issue raised in the Office Action. Claims 1-12 are pending in this application.

Claim 1 was rejected under 35 U.S.C. §112, second paragraph, for the reason set forth in paragraph (4) of the Office Action. Reconsideration and withdrawal of this rejection are respectfully requested for at least the following reasons.

With respect to this rejection, it is the Examiner's position that there is "insufficient antecedent basis" for the claim language -- the axis of the molecular helix-- . Respectfully, Applicants disagree and point out that those of ordinary skill in the art would understand that molecules having a "helical configuration" inherently would have an axis of the molecular helix. It is noted that the cited Nagae et al. Reissue Patent No. 33,120 refers to helically oriented molecular having an axis of helix (column 1, lines 67-68). Thus, Applicants believe that the present claims, as originally filed, reasonably apprise those of ordinary skill in the art of their scope.

However, in an effort to expedite prosecution and solely for purpose of clarification, Applicants have amended independent claims 1 and 11 to provide antecedent basis for the language "the axis of the molecular helix". Accordingly, withdrawal of this rejection is respectfully requested.

Claims 1-4 and 6-12 have been rejected under 35 U.S.C. §102(b) as anticipated by U.S. Reissue Patent No. 33,120 to Nagae et al. for reasons provided in paragraph (6) of the Office Action. In addition, claim 5 was rejected under 35 U.S.C. §103(a) as unpatentable over Nagae et al. '120 in view of U.S. Patent No. 4,985,285 to Ichikawa et al. for the reasons set forth in paragraph (8) of the Office Action. Reconsideration and withdrawal of these rejections are requested for at least the reasons which follow.

The present invention achieves a high light utilization by providing a polarizing element having the following features:

- (1) a polarizer having a transmission axis; and
- (2) a layer including liquid crystal molecules that have a chiral smectic texture of a helical configuration, and a direction of an orthogonal projection of an axis of a molecular helix of the helical configuration onto the surface of the layer that is substantially at 90° with respect to the transmission axis of the polarizer.

In contrast, in the polarizing element of Nagae et al. '120, a direction of an orthogonal projection of an axis onto a surface of a liquid crystal layer is not at 90° with respect to a transmission axis of the polarizer. Specifically, Figures 3a and 3b of this reference represent schematic diagrams of a sectional view of the liquid crystal layer 10 of the polarizing element shown in Figure 2 vertically cut to a direction of an electric field, as is apparent from the vertical direction marks of the electric field. As understood from lines 45-47 of column 3 of Nagae et al. '120 which describes the helix axis 2 of the liquid crystal molecules as approximately parallel to the substrates 121 and 122, the axis 2 resides

inside the liquid crystal layer 10. Since the axis 2 resides inside the liquid crystal layer 10, the axis 2 corresponds to the direction of the orthogonal projection of the axis onto the surface of the layer.

Consequently, it is clear from Figures 3a and 3b in Nagae et al. '120 that, unlike the claims of the present invention, the axis 2 is not at 90° with respect to the transmission axes 32 and 33.

Applicants disagree with the Examiner's position that in the article of Nagae et al. '120, the orthogonal direction of the molecular helix axis 2 onto the surface of the liquid crystal layer is 90° with respect to the transmission axis 32 of the polarizer. This position appears to be based on a misinterpretation of Figure 3a of the reference.

The disclosure of Ichikawa et al. '285 was relied upon solely to show the use of an iodine-type polarizing sheet. As such, the secondary art does not supply the aforementioned deficiencies of Nagae et al. '120.

For at least the above reasons, the §§102(b) and 103(a) rejections should be withdrawn. Such action is earnestly requested.

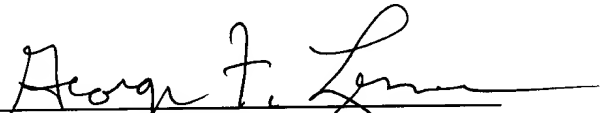
From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order and such action is earnestly solicited. If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned at (703) 838-6683 at his earliest convenience.

Respectfully submitted,

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